

**REMARKS**

Claims 1-12 remain in the application. Applicant asserts that no new matter has been added. Reconsideration of the Application is hereby requested

***Rejections Under 35 U.S.C. § 102***

Claims 1, 4, 6, 8, and 10-11 were rejected under 35 U.S.C. § 102(b), as being anticipated by Hagenbuch (2002/0025506). Applicant respectfully traverses this rejection on the ground, *inter alia*, that the cited reference fails to disclose a “shoulder,” as defined in the Specification and as recited in the rejected claims.

In Claim 1, Applicant recited the following limitations: “forming a curable hybrid ceramic material into a shoulder,” “partially curing the hybrid ceramic material so as to form an initially cured shoulder,” “shaping the initially cured shoulder to a desired shape so that the shoulder conforms to at least one patient specific criterion” and “completely curing the shoulder.” Thus, a “shoulder” is an element of Claim 1.

Applicant has expressly defined the term “shoulder” both in the Detailed Description and the Figures to be a structure that provides a “seamless transition between the abutment and the gum tissue” in connection with a dental implant. [¶0004] A shoulder is a structure that “is formed 13 about the base portion 14 of the abutment 12....” [¶0032] A shoulder is shown graphically throughout the figures, for example as item 18 in FIGS. 5A-5C. These figures show the shoulder 18 interfacing an abutment 12 with gum tissue 32. [See, also, ¶0040] The term “shoulder” is also well known in the implant dentistry art to mean a structure that fits at the base of an abutment and that provides a transition between the abutment and the patient’s gum tissue (*see, e.g.*, U.S. Patent No. 6,497,573).

Nowhere does Hagenbuch disclose, or otherwise suggest, a shoulder. The Action refers to items 4 and 5 of Hagenbuch as a shoulder. However, Hagenbuch discloses that these items are a

“fibre-reinforced shaping cap 4 which is filled with polymerizable material 5 [that] is pushed over the root pin 3.” [¶0051, *see, also*, Hagenbuch, FIG. 1] As seen in FIG. 1 of Hagenbuch, the shaping cap of Hagenbuch does *not* provide any type of transition between an abutment and the patient’s gum tissue. The transition is provided by the patient’s tooth root (item 1 in FIG. 1). Therefore, Hagenbuch does not disclose any sort of shoulder.

Also, while Hagenbuch discloses that the shaping cap may be “uncured, pre-cured or fully-cured” [¶0028], it does not disclose the step of “partially curing the hybrid ceramic material so as to form an initially cured shoulder.” Hagenbuch discloses use of a pre-made shaping cap (that is preferably pre-cured [*Id.*]). The pre-made shaping cap is filled with a polymerizable composite material and then eventually finally cured. [¶0035] The Office Action states that the combination of the shaping cap (item 4 in FIG. 1) and the polymerizable material filler (item 5) forms a shoulder. However, the potentially pre-cured shaping cap alone does not comprise a shoulder. Even accepting, solely for the sake of argument, that the combination of a shaping cap and filler is a shoulder, this combination is never partially cured: the combination is only fully cured.

Claim 1 of the present application, on the other hand, recites the step of “partially curing the hybrid ceramic material so as to form an initially cured shoulder.” Hagenbuch discloses only a partially cured shaping cap that is filled with uncured polymerizable composite material.

Therefore, the step of partially curing material to form an initially cured shoulder is completely missing from Hagenbuch.

For either of these reasons, each of which is sufficient, *by itself*, to distinguish Claim 1 from Hagenbuch, Applicant believes that this rejection has been overcome and respectfully requests that Claim 1 be allowed.

Regarding Claims 4, 6, 8, and 10-11, as they depend from Claim 1 and, thus, take the limitations therefrom, they are distinguishable from Hagenbuch for the reasons presented with respect to Claim 1.

For the above-recited reasons, Applicant believes that this rejection has been overcome

and Applicant respectfully requests that these claims be allowed.

***Rejections Under 35 U.S.C. § 103***

***Rejection with respect to Claims 2, 3, 5 and 12:***

Claims 2, 3, 5 and 12 were rejected under 35 U.S.C. § 103(a), as being unpatentable over Hagenbuch in view of Braiman (5,346,397). Preliminarily, as discussed above, Hagenbuch does not disclose, or otherwise teach or suggest, a shoulder. Likewise, Braiman does not disclose, or otherwise teach or suggest, a shoulder. Braiman discloses a process for forming a crown to be applied to the stub of an existing tooth. [Abstract, *see, also*, col. 3, lines 38-54] Nowhere does Braiman disclose an implant, an abutment or a shoulder.

Also, as Claims 2, 3, 5, and 12 depend from Claim 1 and, thus, take the limitations therefrom, they are distinguishable from Hagenbuch for the reasons presented with respect to Claim 1.

Regarding this rejection, as applied to Claim 3 and 5, Braiman discloses adding plurality of predetermined sized ceramic beads which are covered by a paste build up beneath a shell. [Braiman, Claim 5] However, there is no mention of applying a hybrid ceramic to an initially cured shoulder. Further, Braiman neither teaches nor suggests the limitation of “alternatively adding and removing hybrid ceramic material from the initially cured shoulder,” as recited in Claim 5 of the present application. For the above-recited reasons, Applicant believes that this rejection has been overcome and Applicant respectfully requests that these claims be allowed.

***Rejection with respect to Claim 7:***

Claims 7 was rejected under 35 U.S.C. § 103(a), as being unpatentable over Hagenbuch. Because Claim 7 depends from Claim 1 and, thus, takes the limitations therefrom, it is

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distinguishable from Hagenbuch for the reasons presented with respect to Claim 1. For the above-recited reasons, Applicant believes that this rejection has been overcome and Applicant respectfully requests that this claim be allowed.

*Rejection with respect to Claim 9:*

Claim 9 was rejected under 35 U.S.C. § 103(a), as being unpatentable over Hagenbuch in view of Ibsen (5,683,249). Because Claim 9 depends from Claim 1 and, thus, takes the limitations therefrom, it is distinguishable from Hagenbuch for the reasons presented with respect to Claim 1. The addition of Ibsen fails to teach or suggest the claimed invention. For the above-recited reasons, Applicant believes that this rejection has been overcome and Applicant respectfully requests that this claim be allowed.

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**CONCLUSION**

Applicant believes that the rejections have been overcome for the reasons recited above. Therefore, Applicant respectfully requests that all remaining claims be allowed and that a timely Notice of Allowance be issued.

No additional fees are believed due. However, the Commissioner is hereby authorized to charge any additional fees which may be required, including any necessary extensions of time, which are hereby requested, to Deposit Account No. 503535.

02/16/2006  
Date

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<u>Bryan W. Bockhop</u> Bryan W. Bockhop	<u>02/16/2006</u> Date